

27



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,383	01/22/2002	Ted Mag	25283 USA	1850
	7590 10/21/2005		EXAMINER	
Patrick J Kelly Synnestvedt & Lechner 2600 Aramark Tower 1101 Market Street Philadelphia, PA 19107-2950			WITZ, JEAN C	
			ART UNIT	PAPER NUMBER
			1651	
DATE MAILED: 10/21/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,383

Applicant(s)

MAG, TED

Examiner

Jean C. Witz

Art Unit

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15, 16, 18-23, 31, 61, 72 and 75-83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15, 16, 18-23, 31, 61, 72 and 75-83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 17, 2005 have been fully considered insofar as they apply to the new grounds of rejection set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10, 12-13, 15-16, 18-23, 31, 72, 75, and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,093,540 to Sen Gupta combined with U.S. Patent 5,336,794 to Pryor et al. in view of Wanasundara et al.

Sen Gupta teaches a purification process of glyceride oil via a purely physical refining process that does not use any caustic chemicals such as alkali or acids. The patent teaches that oxidative or other chemical damages done to the oil during chemical refining steps results in "injurious effect on the organoleptic quality and the keepability of the oils." The process contains a desliming process by passing the crude oil through a semi-permeable membrane. The process also contains a step where the oil is contacted with an adsorbent. The adsorbent is preferably a silica gel, such as Sorbsil® and Kieselgem M®. See cols. 5-6. The order of these steps is not critical. See col. 2, lines 15-20. Then the oil is deodorized in a conventional manner. Other conventional

Art Unit: 1651

processes such as bleaching can be performed after the desliming and adsorption steps, regardless of which step is carried out first. Since the two steps are disclosed as being refining steps, therefore, if the adsorbent is used first, the oil that is treated is considered to be crude oil and when the desliming process is performed first, the oil would be considered to be foundation oil. Oils produced in this manner have superior organoleptic properties, and improved storage times. All types of oils and specifically marine oils can benefit from this procedure. See col. 2, lines 10-15.

Sen Gupta specifically teaches that the silica adsorbent removes all polar compounds as well as the free fatty acids, oxidized triglycerides, partial glycerides, sterols, and glycosides, saponins, chlorophylls, xanthophylls, and sulphurous compounds if present. However, the fatty acid esters of sterols, carotenes and tocopherols are not removed.

While the patent teaches crude or foundation oils that are physically refined without the use of alkali or acids and teach contacting the oil with silica, as well suggesting conventional bleaching after refining, the patent does not disclose the use of a vacuum and does not explicitly describe the bleaching process that uses clay.

Pryor et al. teach a dual phase adsorption treatment for glyceride oils. At col. 1, lines 30-35, glyceride oils are defined as any vegetable or animal oil, including edible oils from animal fats chiefly used in foodstuffs. A simple dual phase adsorption and treatment process is taught for the removal of impurities in either chemically or physically refined glyceride oils. Physically refined glyceride oils are ones that have not undergone a caustic refining step. The dual phase adsorption process begins with

Art Unit: 1651

contacting the oil with amorphous silica adsorbents to remove all or substantially all soaps, gums or both from the oil and reduce the phospholipid content of the oil. At col. 7, silica adsorbents are defined to include silica gels, and silica gels of the brand TriSyl® are used in preferred embodiments. Silica gel is mixed with the oil followed by a filtration treatment to remove the spent silica gel. The preferred amount of amorphous silica is at least about 0.01 to about 1.0 wt % of the oil to be processed (claim 13). See col. 11, lines 30-36.

Following the silica treatment, the oil is filtered through a packed bed of pigment removal agent, which is defined as bleaching clay. The preferred amount of the bleaching clay is defined as about 0.01 to about 1.0 wt % of the oil. See col. 12, lines 30-35 (claim 16). The oil is also heated during the bleaching treatment to heats of about 90°C to about 120°C but may go as high at 150°C (see col. 12, lines 45-50 (claim 18)).

It would have been obvious to one of ordinary skill in the art to encompass conventional silica gel adsorbent steps in the process of refining marine animal oil and specifically marine fish or mammalian oil without an alkali and/or acid step because Sen Gupta teaches that such is preferred. One of ordinary skill in the art would have been motivated to omit the caustic refining step and perform solely physical refining steps and specifically a silica adsorbent step and a clay bleaching step in view of the disclosure of Sen Gupta who shows that a caustic chemical refining step not only can be successfully omitted but in fact should be omitted due to the deleterious effects that the alkali and acid confer to the oils that have been so refined. Sen Gupta also provides both

Art Unit: 1651

motivation and reasonable expectation of success to treat marine oils in the same manner as vegetable oils because Sen Gupta specifically teaches that physical refining is appropriate for marine oils and will remove the contaminants that are removed via the caustic refining step. There is further motivation in the prior patent to Pryor et al. that teaches that physical refining steps may be alternatives to chemical refining (caustic alkali) steps in glyceride oils in general, with expected benefits.

With regard to claim 3 which limits the steps to a silica treatment and a bleaching clay treatment, the disclosure of Wanasundara teaches that the deodorization causes removal of the tocopherols that are responsible for antioxidant protection of the easily oxidizable components of the fish marine oil. Sen Gupta teaches that the use of a silica adsorbent will leave the tocopherols in the oil. Therefore, one of ordinary skill in the art would have been motivated to perform only a physical refining step using the silica adsorbent step followed by a bleaching step. Since the claims allow for the treatment of foundation oil and since the desliming step is not a complete refinement, the claims allow for the treatment of the oil with the desliming step of Sen Gupta.

2. Claims 11, 61 and 81-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,093,540 to Sen Gupta combined with U.S. Patent 5,336,794 to Pryor et al. in view of Wanasundara et al. as applied to claims 1-10, 12-13, 15-16, 18-23, 31, 72, 75, and 76-80 above, and further in view of U.S. Patent 4,780,309 to Geria et al. and U.S. Patent 4,678,808 to Ward et al.

Geria et al. teach that omega-3-containing marine oils, specifically fish oils and seal oils, are used in pharmaceutical compositions for treatment of a variety of diseases

Art Unit: 1651

and conditions. These oils generally have unpleasant odors and unpalatable tastes. Ward et al. teaches that salmon oil is a source of omega-3 fatty acids. It would have been obvious to produce the fish oils and specifically a salmon oil via the claimed method as addressed above. One of ordinary skill in the art would have been motivated to make these oils in the claimed manner because these oils will have improved smell and taste because of the expected inclusion of the tocopherols that will reduce the rancidity of the fish oils. There would have been a reasonable expectation of success since the physical refinement will be expected to maintain the fatty acid content, which are the active ingredients of the oil, and maintain the tocopherol content, which will improve the smell and taste of the oil.

Applicant's arguments with regard to the rejections under 35 USC 102 have been rendered moot by the rejections set forth above. Applicant argues that Pryor does not refer at any place to marine animal oils and therefore there is no motivation in Pryor to motivate one of ordinary skill in the art to apply the process of Pryor to a marine animal oil. Applicant also argues that marine animal oils are usually more contaminated than vegetable oils. Therefore, Applicant argues that one of ordinary skill in the art would not treat marine animal oils in the same manner as vegetable oils and concludes that the disclosure of Pryor must be limited to the treatment of vegetable oils. Applicant also asserts that, prior to Applicant's invention, one of ordinary skill in the art would not have expected that marine oil may be refined without the use of an alkali treatment step.

Applicant's arguments have not been found to be persuasive, particularly in view of the disclosure of Sen Gupta. This reference teaches the motivation to avoid an alkali

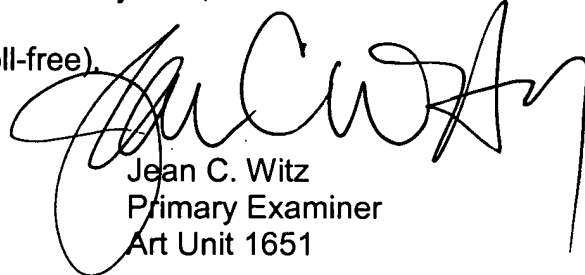
Art Unit: 1651

treatment step in all glyceride oils and explicitly identifies marine oils as oils appropriate for omission of the alkali treatment step. Applicant's arguments regarding the Van Dalen references are moot as these references are no longer present in the rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean C. Witz whose telephone number is (571) 272-0927. The examiner can normally be reached on 6:30 a.m. to 4:00 p.m. M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jean C. Witz
Primary Examiner
Art Unit 1651